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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,798	05/28/2004	Paul D. Kartschoke	BUR920040003US1	3797

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EXAMINER	
PARIHAR, SUCHIN	

ART UNIT	PAPER NUMBER
2825	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/709,798	KARTSCHOKE ET AL.
	Examiner	Art Unit
	Suchin Parihar	2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 May 2004*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☒ Claim(s) *1-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

PAUL DINH
PRIMARY EXAMINER

Paul Dinh

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to application 10/709,798, filed on 5/28/2004. Claims 1-20 are pending in this application.

Claim Objections

1. Claims 5-6 and 15-16 are objected to because "wherein the step of identifying failing gates" lacks antecedent basis. It appears that the applicant means: --wherein the step of determining any failing gates--.

2. Claim 12 is objected to because "wherein the step of compiling includes compiling" lacks antecedent basis. Appropriate correction is required.

3. Claims 10 and 20 are objected to because "where in" should be changed to "wherein".

Reasons for Allowance

4. Claims 1-20 would be allowable because the prior art does not teach or suggest a method for identifying and preventing logic errors in an integrated circuit caused by gate oxide leakage having combinations of steps and elements in the claims including particularly the following limitations in claim 1 and similarly recited claim 11: determining, for each driving circuit, the weakest pull-up circuit and the weakest pull-down circuit and converting them to equivalent resistances; defining and modeling, for each net, a comprehensive DC resistance network of the driving circuit resistance, the interconnect resistance, and the current source resistance; determining, for each sink transistor gate, the net pulled up and the net pulled down to determine a DC solution of the gate voltage offset at each sink transistor gate; determining any failing gates with a

reference level voltage check of the gate voltage offset relative to a given threshold; using a static noise analysis tool to combine the determined gate voltage offset as a noise source with other noise sources, and performing a sensitivity analysis to determine the effect of the noise on the function on each receiving circuit gate; and redesigning each failed net.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Young et al. (6,378,109) teaches: locating and compiling every net (a netlist is created which defines interconnectivity, Col 5, lines 5-10), which is an interconnect between a driving circuit and a receiving circuit, in an integrated circuit; determining, for each receiving circuit, the gate area (see Figure 11) of each current sink transistor device; and determining, for each receiving circuit, the entire current source to current sink resistive interconnect network (see Figure 5). Young does not teach or suggest all the elements recited in the claims.

6. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suchin Parihar whose telephone number is 571-272-6210. The examiner can normally be reached on Mon-Fri, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Dinh

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PRIMARY EXAMINER

Suchin Parihar
Examiner
AU 2825